AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-28 Canceled

29. (Currently amended) An electronic, hand held fluid dispensing system for use with a laboratory pipette, comprising:

a housing capable of being held in one hand;

a coupler disposed at least partially within said housing, said coupler being adapted to be removably connected to said pipette;

a source of pressure and/or vacuum;

a valve pneumatically coupled between said source and said coupler;

at least one pressure transducer pneumatically coupled to said coupler, said pressure transducer generating at least one output; and

an electronic controller electrically coupled to control at least said valve and also electrically coupled to said pressure transducer, said electronic controller operating in an open-loop mode to control said valve in accordance with a valve ~~controlled~~ control timing parameter derived from said pressure transducer output and a stored quantity parameter relating to a desired quantity of fluid to be dispensed, said valve control timing parameter controlling said valve so that said system automatically, repetitively dispenses substantially a predetermined quantity of fluid from said pipette.

30. (Original) The system of claim 29 wherein said source comprises an electric air pump.

31. (Original) The system of claim 29 wherein said source comprises a source of atmospheric pressure.

32. (Original) The system of claim 29 wherein said source comprises a source of a pressurized gas.

33. (Original) The system of claim 29 wherein said source comprises a reversible electric pump that selectively generates suction and positive pressure, and wherein said electronic controller is coupled to selectively control said pump to generate suction to draw fluid into said pipette.

34. (Original) The system as in 29 wherein said hand-held housing is gun-shaped.

35. (Original) The system as in 29 wherein said electronic controller dynamically calculates said valve control parameter based on a non-linear mathematical model.

36. (Currently amended) The system as in 29 wherein said electronic controller uses a look-up table to ascertain said valve control parameter based in part on measured pressure.

37. (Original) The system as in 29 where further including a further pressure transducer that measures pressure between said source and said valve, and wherein said electronic controller is responsive to said second pressure transducer for controlling said source to compensate for variations in the output pressure of said source.

38. (Original) The system as in 29 wherein said coupler is adapted to accept pipettes of different sizes.

39. (Original) The system as in 29 further including a graphical display disposed on said housing and coupled to said electronic controller.

40. (Original) The system as in 29 further including means for allowing an end user to program said desired quantity.

41. (Original) The system as in 40 wherein said means comprises first and second push buttons mounted on said housing, said first and second push buttons in one mode of operation being used to program said desired quantity, and in a further mode of operation being used to control aspiration and dispensing rate.

42. (Original) The system as in 40 wherein said means comprises software executed by said electronic controller that allows said electronic controller to learn said desired quantity based on user operation of said system.

43. (Original) The system as in 29 wherein said system achieves repeatable dispensing accuracies of better than 1%.

44. (Original) The system as in 29 wherein said fluid control element comprises an electronic valve with a on/off orifice, and wherein said control parameter controls the duration of opening of said valve orifice.

45. (Original) The system as in 29 wherein said fluid control element comprises a valve with a variable orifice, and wherein said control parameter controls the amount said valve orifice is opened.

46. (Original) The system as in 29 wherein said electronic controller controls said source to reduce undesired dripping of fluid from said pipette.

47. (Original) The system as in 29 wherein said electronic controller derives an indication of the angle of said pipette from vertical.

48. (Original) The system as in 29 wherein said electronic controller compensates for different fluid viscosities.